Identifying the *Cactoblastis cactorum* Pheromone

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The cactus moth, *Cactoblastis cactorum* (Berg), is an invasive pest of *Opuntia* spp. Since its arrival in the Florida Keys in 1989, it has moved rapidly up the east and west coasts of Florida, threatening to invade the southwestern United States and Mexico. Female moths produce a sex pheromone that attracts male moths. In this presentation, we report the identification of putative pheromonal chemical components based on mass spectral analysis of volatiles collected from virgin female moths and from solvent extraction of excised glands. Three candidate components, formulated on rubber septa in different release rates and ratios, were tested in laboratory olfactometer and flight tunnel experiments, and in field tests in areas with known feral populations of cactus moths. Lures formulated with the three-component blend of 54% (Z,E) -9,12 tetradecadien-1-ol acetate, 42% (Z,E) - 9,12 tetradecadien-1-ol and 4% (Z)-9- tetradecen -1-ol acetate were the most effective, although changes in the ratio of these components had little effect on lure efficacy. For field deployment, traps baited with synthetic lures with a 1 mg load of the three component blend captured equal or higher numbers of males than traps baited with two virgin females. Trapping systems using this pheromone-based attractant will be useful for population delineation in areas currently infested. This research paper is available for download at www.entsoc.org: R.R. Heath, P.E.A.Teal, N.D. Epsky, B.D. Dueben, S.D. Hight, S. Bloem, J.E. Carpenter, T.J. Weissling, P.E. Kendra, J. Cibrian-Tovar, And K.A. Bloem. Pheromone-based attractant for males of *Cactoblastis cactorum* (Lepidoptera: Pyralidae). Environ. Entomol. 35(6): 1469 -1476 (2006). The currently identified pheromone-based lure provides an alternative to using caged female cactus moths to detect moths, however the detection capabilities in low population may be severely compromised. Research to identify additional chemical components is ongoing.